

**REMARKS**

Initially, in accordance with Applicants' duty to provide information regarding the substance of an interview, a telephonic interview was held between Applicants' representative and Examiners Pyo and Wong on September 21, 2006. Applicants would like to thank Examiners Pyo and SPE Wong for the courtesies extended during the telephonic interview. During the interview, the rejection based on Liddy et al. (U.S. Patent No. 6,026,388) was discussed. The Examiner agreed to consider the arguments and the amended claims presented herein upon the filing of this Amendment.

In the non-final Office Action, the Examiner rejects claims 1-24 under 35 U.S.C. § 101 as being drawn to non-statutory subject matter; objects to the specification as failing to provide proper antecedent basis for claimed subject matter; rejects claims 1-27, 29-44, 46-48, 50-65, and 67-78 under 35 U.S.C. § 102(b) as being anticipated by LIDDY et al. (U.S. Patent No. 6,026,388); and rejects claims 28, 45, 49, and 66 under 35 U.S.C. § 103(a) as being unpatentable over LIDDY et al. and further in view of HANSEN et al. (U.S. Patent Application Pub. No. 2003/0014399). Applicants respectfully traverse the rejections.<sup>1</sup>

By way of this Amendment, Applicants amend the specification and claims 1-3, 5-7, 9-15, 21, 22, 24-29, 31-42, 44-52, 58, 66, 68-76, and 78 to improve form. No new matter has been added. Claims 1-78 remain pending.

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<sup>1</sup> As Applicants' remarks with respect to the Examiner's rejections overcome the rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, etc.) is not a concession by Applicants that such assertions are accurate or that such requirements have been met, and Applicants reserve the right to dispute these assertions/requirements in the future.

Claims 1-24 stand rejected under 35 U.S.C. § 101 as allegedly drawn to “the manipulation of an abstract idea without a concrete or tangible result” (Office Action, p. 3). Applicants respectfully traverse the rejection.

While not acquiescing in the Examiner's rejection, but simply to expedite prosecution, independent claims 1, 12, and 24 have been amended to more clearly define the claimed subject matter. Claims 2-11 and 13-23 variously depend from claims 1 and 12. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-24 under 35 U.S.C. § 101.

The specification stands objected to as allegedly failing to define or disclose the term, searcher, as recited in claim 25 (Office Action, p. 3). While not acquiescing in the Examiner's objection, but simply to expedite prosecution, the specification has been amended to recite a “searcher.” Support for the amendment can be found throughout the specification, including the originally filed claims. Accordingly, reconsideration and withdrawal of the objection is respectfully requested.

Claims 1-27, 29-44, 46-48, 50-65, and 67-78 under 35 U.S.C. § 102(b) as being anticipated by LIDDY et al. Applicants respectfully traverse the rejection.

Independent claim 1, as amended, is directed to a system for creating query refinement suggestions. The system comprises a database configured to store content of a plurality of documents; a log configured to store received search queries; a server configured to receive a current search query from a user and identify at least one search document stored in the database based on the current search query; a matcher configured to match the at least one search document to one or more of the stored search queries from the log, wherein the current search query differs from the matched one or more

stored search queries; and a scorer configured to score the matched one or more search queries as a potential query refinement suggestion to be presented to the user. LIDDY et al. does not disclose or suggest this combination of features.

For example, LIDDY et al. does not disclose or suggest a matcher that is configured to match at least one search document that has been identified based on a current search query, to one or more of the stored search queries from the log, wherein the current search query differs from the matched one or more stored search queries. The Examiner asserts that LIDDY et al. discloses these features, and cites col. 7, lines 17-25 and 44-51, as support (Office Action, p. 4). Applicants respectfully disagree.

LIDDY et al., at col. 7, lines 17-25 and 44-51 discloses:

DR-LINK software is designed to (1) process text stored in digital form (documents) or entered in digital form on a computer terminal (queries) to create a database file recording the manifold contents of the text, and (2) match discrete texts (documents) to the requirements of a user's query text. DR-LINK provides rich, deep processing of text by representing and matching documents and queries at the lexical, syntactic, semantic and discourse levels, not simply by detecting the co-occurrence of words or phrases.

\* \* \*

It should be understood, however, that by the time a user is entering queries into the system, the relevant document databases will have been processed and annotated, and various data files and data constructs will have been established. These are shown schematically as a "Document Database and Associated Data" block 60, referred to collectively below as the document database.

These sections of LIDDY et al. disclose software to process text stored in digital form (documents) or entered in digital form (queries) to create a database file recording the manifold contents of the text, such that relevant document databases will have been processed and annotated, and various data files and data constructs will have been established before receiving a query from a user. Upon receiving the query, the software

matches discrete texts (documents) to a user's query text. Thus, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a matcher that is configured to match at least one search document that has been identified based on a current search query, to one or more of the stored search queries from the log, wherein the current search query differs from the matched one or more stored search queries, as required by claim 1.

Furthermore, LIDDY et al. does not disclose or suggest a scorer configured to score the matched one or more search queries as a potential query refinement suggestion to be presented to the user. The Examiner asserts that LIDDY et al. discloses these features, and cites col. 15, lines 53-61; and col. 16, lines 3-6, as support (Office Action, p. 4). Applicants respectfully disagree.

At the outset, Applicants respectfully submit that since LIDDY et al. fails to disclose a matcher that is configured to match at least one search document that has been identified based on a current search query, to one or more of the stored search queries from the log, wherein the current search query differs from the matched one or more stored search queries, LIDDY et al. cannot reasonably disclose a scorer configured to score the matched one or more search queries as a potential query refinement suggestion to be presented to the user.

LIDDY et al., at col. 15, lines 53-61 and col. 16, lines 3-6 discloses:

The text structurer is used as a partial requirement for relevancy in the matching process. Stated briefly, in the query to document matching process, each query term is searched against document index terms. One of the metrics used for assigning relevance scores, called positive text structurer (PTS), requires that a match be based on the presence of query terms found within the correct text structurer component. More details on PTS-based matching is given in the later description of the matcher.

\* \* \*

The scores are an indication of the strength of the association between the term and the document.

These sections of LIDDY et al. disclose that in the query to document matching process, each query term is searched against document index terms, and a metric used for assigning relevance scores (i.e., an indication of the strength of the association between the term and the document) requires that a match be based on the presence of query terms found within the correct text structurer component. LIDDY et al. clearly discloses the query matching process executed, by matcher 55, occurs after query processing that produces an alternative query representation that is displayed to a user (see LIDDY et al., at Abstract; col. 8, lines 29-34; col. 28, lines 23-26; col. 30, lines 38 and 39; and col. 32, lines 38-46). Accordingly, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a scorer configured to score the matched one or more search queries as a potential query refinement suggestion to be presented to the user, as required by claim 1.

For at least the foregoing reasons, Applicants respectfully submit that claim 1 is not anticipated by LIDDY et al.

Claims 2-11 depend from claim 1 and are, therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 1.

Independent claim 12, as amended, is directed to a method of creating query refinement suggestions. The method comprises storing documents in a database, storing a plurality of queries received via a network; receiving a search query from a user; identifying at least one search document from the database based on the search query; matching the at least one search document to one or more of the stored queries, wherein

the search query differs from the matched one or more stored queries; and scoring the matched one or more stored queries as a potential query refinement suggestion to be presented to the user. LIDDY et al. does not disclose or suggest this combination of features.

For example, LIDDY et al. does not disclose or suggest matching the at least one search document to one or more stored queries, wherein the search query differs from the matched one or more stored queries. The Examiner asserts that LIDDY et al. discloses these features, and apparently relies on col. 7, lines 17-25 and 44-51, as support (Office Action, p. 4). For at least reasons similar to the reasons given with respect to claim 1, Applicants respectfully disagree.

Furthermore, LIDDY et al. does not disclose or suggest scoring the one or more stored queries as a potential query refinement suggestion, as also required by claim 12. The Examiner asserts that LIDDY et al. discloses these features, and apparently relies on col. 15, lines 53-61; and col. 16, lines 3-6, as support (Office Action, p. 4). For at least reasons similar to the reasons given with respect to claim 1, Applicants respectfully disagree.

For at least the foregoing reasons, Applicants respectfully submit that claim 12 is not anticipated by LIDDY et al.

Claims 13-23 depend from claim 12 and are, therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 12.

Independent claim 24, as amended, recites features similar to (yet possibly of different scope than) features described above with respect to claim 1. Therefore, claim

24 is not anticipated by LIDDY et al., for at least reasons similar to reasons given above with respect to claim 1.

Independent claim 25, as amended, is directed to a system for providing search query refinements. The system comprises an associator configured to associate a previously received, stored query and a stored document as a logical pairing and assign a weight to the logical pairing; a searcher configured to receive a search query from a user and produce a set of search documents based on the received search query; a matcher configured to match at least one of the set of search documents to at least one stored document and retrieve the stored query and the assigned weight associated with the matching at least one stored document, wherein the received search query and the stored query differ; a clusterer configured to form at least one cluster based on the stored query and the assigned weight associated with the matching at least one stored document; and a scorer configured to score the stored query associated with the matching at least one stored document for the at least one cluster relative to at least one other cluster and suggest at least one scored search query as a set of query refinements to be presented to the user. LIDDY et al. does not disclose or suggest this combination of features.

For example, LIDDY et al. does not disclose or suggest a matcher configured to match at least one of the set of search documents to at least one stored document and retrieve the stored query and the assigned weight associated with the matching at least one stored document, wherein the received search query and the stored query differ. The Examiner asserts that LIDDY et al. discloses these features, and cites col. 7, lines 17-25 and 44-51; and col. 12, lines 15-20, as support (Office Action, p. 7). Applicants respectfully disagree.

Col. 7, lines 17-25 and 44-51 of LIDDY et al. is reproduced above. This section discloses software to process text stored in digital form (documents) or entered in digital form (queries) to create a database file recording the manifold contents of the text, such that relevant document databases will have been processed and annotated, and various data files and data constructs will have been established before receiving a query from a user. Upon receiving the query, the software matches discrete texts (documents) to a user's query text. Thus, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a matcher configured to match at least one of the set of search documents to at least one stored document and retrieve the stored query and the assigned weight associated with the matching at least one stored document, wherein the received search query and the stored query differ, as required by claim 25.

LIDDY et al., at col. 12, lines 15-20 discloses:

A synonymous phrase might be "Text Processing Software." Later matching algorithms weight these terms based on the assumption that a whole CN is a better, more specific indicator of the document's contents than the recombined constituent words.

This section discloses that "later" matching algorithms weight terms of a complex nominal (CN) based on the assumption that a whole CN is a more specific indicator a document's contents than the recombined constituent words. Thus, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a matcher configured to match at least one of the set of search documents to at least one stored document and retrieve the stored query and the assigned weight associated with the matching at least one stored document, wherein the received search query and the stored query differ, as required by claim 25.



For at least the foregoing reasons, Applicants respectfully submit that claim 25 is not anticipated by LIDDY et al.

Claims 26, 27, and 29-44 depend from claim 25 and are therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 25.

Independent claim 46, as amended, recites features similar to (yet possibly of different scope than) features described above with respect to claim 25. Therefore, claim 46 is not anticipated by LIDDY et al., for at least reasons similar to reasons given above with respect to claim 25.

Claims 47, 48, 50-65, and 67 depend from claim 46 and are, therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 46.

Independent claim 68, as amended, recites features similar to (yet possibly of different scope than) features described above with respect to claim 25. Therefore, claim 68 is not anticipated by LIDDY et al., for at least reasons similar to reasons given above with respect to claim 25.

Independent claim 69, as amended, is directed to a system for integrating query refinement candidates. The system comprises a matcher configured to match, to one or more stored documents associated with a previously received, a stored query having an associated weight, at least one search document retrieved responsive to a query from a user and match at least one further search document retrieved responsive to a candidate query to the one or more stored documents, wherein the query from the user and the stored query differ; a clusterer configured to form at least one cluster based on the stored query and weight associated with each stored document matched responsive to the query and form at least one further cluster based on the stored query and weight associated with

each stored document matched responsive to the candidate query; a combiner configured to combine the at least one cluster and the at least one further cluster; and a scorer configured to score the stored query for the combined cluster relative to at least one other cluster as a potential query refinement suggestion to be presented to the user. LIDDY et al. does not disclose or suggest this combination of features.

For example, LIDDY et al. does not disclose or suggest a matcher configured to match, to one or more stored documents associated with a previously received, a stored query having an associated weight, at least one search document retrieved responsive to a query from a user and match at least one further search document retrieved responsive to a candidate query to the one or more stored documents, wherein the query from the user and the stored query differ. The Examiner asserts that LIDDY et al. discloses these features, and cites col. 7, lines 17-25 and 44-51; col. 12, lines 15-20; and col. 26, lines 1-9, as support (Office Action, p. 13). Applicants respectfully disagree.

Col. 7, lines 17-25 and 44-51 of LIDDY et al. is reproduced above. This section discloses software to process text stored in digital form (documents) or entered in digital form (queries) to create a database file recording the manifold contents of the text, such that relevant document databases will have been processed and annotated, and various data files and data constructs will have been established before receiving a query from a user. Upon receiving the query, the software matches discrete texts (documents) to a user's query text. Thus, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a matcher configured to match, to one or more stored documents associated with a previously received, stored query having an associated weight, at least one search document retrieved responsive to a query from a user and match at least one

further search document retrieved responsive to a candidate query to the one or more stored documents, wherein the query from the user and the stored query differ, as required by claim 69.

Col. 12, lines 15-20 of LIDDY et al. is reproduced above. This section discloses that "later" matching algorithms weight terms of a complex nominal (CN) based on the assumption that a whole CN is a more specific indicator a document's contents than the recombined constituent words. Thus, nowhere in these sections or elsewhere, does LIDDY et al. disclose or suggest a matcher configured to match, to one or more stored documents associated with a previously received, a stored query having an associated weight, at least one search document retrieved responsive to a query from a user and match at least one further search document retrieved responsive to a candidate query to the one or more stored documents, wherein the query from the user and the stored query differ, as required by claim 69.

Col. 26, lines 1-9 of LIDDY et al. discloses:

4.6 Developing "Informed" Queries for Relevance Feedback

Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector. The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered.

This section discloses relevance feedback is accomplished by combining vectors of user-selected documents/document clusters with an original query vector to produce a new, "informed" query vector that will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered. Thus, nowhere in this section or elsewhere, does LIDDY et al. disclose

or suggest a matcher configured to match, to one or more stored documents associated with a previously received, a stored query having an associated weight, at least one search document retrieved responsive to a query from a user and match at least one further search document retrieved responsive to a candidate query to the one or more stored documents, wherein the query from the user and the stored query differ, as required by claim 69.

For at least the foregoing reasons, Applicants respectfully submit that claim 69 is not anticipated by LIDDY et al.

Claims 70-72 depend from claim 69 and are, therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 69.

Independent claim 73, as amended, recites features similar to (yet possibly of different scope than) features described above with respect to claim 69. Therefore, claim 73 is not anticipated by LIDDY et al., for at least reasons similar to reasons given above with respect to claim 69.

Claims 74-77 depend from claim 73 and are, therefore, not anticipated by LIDDY et al. for at least the reasons given with respect to claim 73.

Independent claim 78, as amended, recites features similar to (yet possibly of different scope than) features described above with respect to claim 69. Therefore, claim 78 is not anticipated by LIDDY et al., for at least reasons similar to reasons given above with respect to claim 69.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-27, 29-44, 46-48, 50-65, and 67-78 under 35 U.S.C. § 102(b) based on LIDDY et al.

Claims 28, 45, 49, and 66 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over LIDDY et al. and further in view of HANSEN et al. Applicants respectfully traverse the rejection.

Claims 28 and 45, and 49 and 66 depend from claims 25 and 46, respectively. Applicants respectfully submit that the disclosure of HANSEN et al. does not cure the above-identified deficiencies of the disclosure of LIDDY et al. with respect to claims 25 and 46. Thus, claims 28, 45, 49, and 66 are patentable over LIDDY et al. and HANSEN et al., whether taken alone or in any reasonable combination, for at least the reasons given with respect to claims 25 and 46.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 28, 45, 49, and 66 under 35 U.S.C. § 103 based on the combination of LIDDY et al. and HANSEN et al.

#### CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of pending claims 1-78.

If the Examiner believes that the application is not now in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned to discuss any outstanding issues.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY SNYDER, L.L.P.

By: /Garth D. Richmond/  
Garth D. Richmond  
Registration No. 43,044

Date: October 23, 2006

11350 Random Hills Road  
Suite 600  
Fairfax, Virginia 22030  
(571) 432-0800

Customer Number: 44989